

Notice of Allowability

Application No.

10/523,936

Applicant(s)

HUANG ET AL.

Examiner

Art Unit

Dai A. Phuong

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 05/02/2006.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

IN THE CLAIMS:

Claim 1 has been amended as follows:

1 (Amended). A decision method for inter-frequency hard handoffs in a WCDMA system, using an event-triggered reporting mode, and triggering events including: Event 2F ☐ having a triggering criteria ☐ where the signal quality on the current frequency point is higher than a certain threshold value ☐], Event 2D ☐ having a triggering criteria ☐ where the signal quality on the current frequency point is lower than a certain threshold value ☐], and Event 2A ☐ having a triggering criteria ☐ where the best frequency point changes, that is, where there is a non-current frequency point on which the signal quality is better than the signal quality on the current frequency point ☐], the decision method comprising:

querying, by a RNC (Radio Network Controller), specific conditions of a location where the a UE (user equipment) is, and performing inter-frequency measurements, specifying required measurement events to be 2F and 2D and relative parameters;

sending, by the RNC measurement control commands to the UE, specifying the parameters that the UE is required to measure;

receiving by the UE, the control commands and performing the measurement and evaluation, and reporting the measurement results when the triggering criteria for the required events are met; and

receiving, by the RNC, the reported measurement results from the UE, and beginning to perform the actions according to the specific events reported by the UE and the RNC's specific decision and execution process.

Claim 5 has been amended as follows:

5 (Amended). The decision method for inter-frequency hard handoffs according to Claim 1, wherein said RNC's specific decision and execution process includes:

[[A.]] (A) when Event 2F is triggered, the RNC requires the UE to perform the decision on Event 2D;

[[B.]] (B) when Event 2D is triggered, the RNC requires the UE to perform the decisions on Event 2F and Event 2A;

[[C.]] (C) when Event 2A is triggered, the RNC makes a decision according to the results of an admission control and resource allocation and sends the corresponding message to the UE,

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and after the hard handoff is performed successfully, the UE performs again the decisions on Event 2F and 2D under the control of the RNC.

Claim 9 has been amended as follows:

9 (Amended). A WCDMA hard handoff system, which uses an event-triggered reporting mode, in which triggering events include: Event 2F ~~[[()]]~~ having a triggering criteria ~~[[of]]~~ where the signal quality on the current frequency point is higher than a certain threshold value ~~[[D]]~~, Event 2D ~~[[()]]~~ having a triggering criteria ~~[[of]]~~ where the signal quality on the current frequency point is lower than a certain threshold value ~~[[D]]~~, and Event 2A ~~[[()]]~~ having a triggering criteria ~~[[of]]~~ where the best frequency point changes, that is, where there is a non-current frequency point on which the signal quality is better than the signal quality on the current frequency point~~[[D]]~~, the WCDMA hard handoff system comprising:

- a Radio Network Controller (RNC); and

- a User Equipment (UE),

- wherein the RNC includes:

- querying means for querying specific conditions of a location where the UE is,
 - and performing inter-frequency measurements, specifying required measurement events to be 2F and 2D and relative parameters; and

- sending means for sending measurement control commands to the Ue, specifying the parameters that the UE is required to measure; and

- wherein the UE includes:

means for performing frequency measurements specifying required measurement events to be 2F and 2D and relative parameters, in accordance with the specific conditions queried by the querying means;

means for receiving the control commands sent by the sending means and performing the measurement and evaluation;

means for reporting the measurement results to the RNC when the triggering criteria for the required events are met,

wherein the RNC further includes:

receiving means for receiving the reported measurement results from the UE; and

performing means for performing actions according to the specific events reported by the UE and according to a specific decision and execution process of the RNC.

Claim 10 has been amended as follows:

10 (Amended). The decision method for inter-frequency hard handoffs according to Claim 9, wherein said RNC's specific decision and execution process includes:

[[A.]] (A) when Event 2F is triggered, the RNC requires the UE to perform the decision on Event 2D;

[[B.]] (B) when Event 2D is triggered, the RNC requires the UE to perform the decisions on Event 2F and Event 2A;

[[C.]] (C) when Event 2A is triggered, the RNC performs an action according to the results of an admission control and resource allocation and sends the corresponding message to

the UE, and after the hard handoff is performed successfully, the UE performs again the decisions on Event 2F and 2D under the control of the RNC.

3. This is in response to the Applicant's amendments and arguments filed on 05/02/2006 in which claims 1-8 have been amended, and claims 9-12 have been added. Claims 1-12 are currently pending.

Allowable Subject Matter

4. After a further search and thorough examination of the present application and in view of the application's argument and amendments, claims 1-12 are found to be in condition of allowance.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art record fails to anticipate or render obvious a decision method for inter-frequency hard handoffs in a WCDMA system, using an event-triggered reporting mode, triggering events including: *Event 2F having a triggering criteria where the signal quality on the current frequency point is higher than a certain threshold value, event 2D having a triggering criteria where the signal quality on the current frequency point is lower than a certain threshold value, and event 2A having a triggering criteria where the best frequency point changes, that is, where there is a non-current frequency point on which the signal quality is better than the signal quality on the current frequency point, the decision method comprising: querying, by the RNC (Radio Network Controller), specific conditions of a location where a UE (user equipment) is, and performing inter-frequency measurements, specifying the required measurement events to be 2F and 2D and the relative parameters;*

sending, by the RNC, measurement control commands to the UE, specifying the parameters that the UE is required to measure; receiving, by the UE, the control commands and performing the measurement and evaluation, and reporting the measurement results when the triggering criteria for the required events are met; and receiving, by the RNC, the reported measurement results from the UE, and beginning to perform actions according to the specific events reported by the UE and the RNC's specific decision and execution process, all limitations in combination as defined by applicant.

Regarding claim 9, the prior art record fails to anticipate or render obvious a WCDMA hard handoff system, which uses an event-triggered reporting mode, in which triggering events include: *Event 2F having a triggering criteria where the signal quality on the current frequency point is higher than a certain threshold value, event 2D having a triggering criteria where the signal quality on the current frequency point is lower than a certain threshold value, and event 2A having a triggering criteria where the best frequency point changes, that is, where there is a non-current frequency point on which the signal quality is better than the signal quality on the current frequency point, the WCDMA hard handoff system comprising: a Radio Network Controller (RNC); and a User equipment (UE), wherein the RNC includes querying means for querying specific conditions of a location where the UE is, and performing inter-frequency measurements, specifying the required measurement events to be 2F and 2D and the relative parameters; and sending means for sending measurement control commands to the UE, specifying the parameters that the UE is required to measure; and wherein the UE includes: means for performing frequency measurement specifying the required measurement events to be 2F and 2D and the relative parameters, in accordance with the specific*

conditions queried by the query means; means for receiving the control commands sent by the sending means and performing the measurement and evaluation, and means for reporting the measurement results to the RNC when the triggering criteria for the required events are met; and wherein the RNC further includes: receiving means for receiving the reported measurement results from the UE, and performing means for actions according to the specific events reported by the UE and according to a specific decision and execution process of the RNC , all limitations in combination as defined by applicant.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong
AU: 2617
Date: 06-17-2006


ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER
6/22/06